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EXAMINER

DIVECHA, KAMAL B

ART UNIT PAPER NUMBER

2151

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/972,568

Applicant(s)

FAYETTE, BRAD K.

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 11-17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-17 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Claims 1-5, 11-17 and 20-22 are pending in this application.

Applicant has submitted the replacement drawings. Therefore the examiner withdraws the objection made to the drawings.

Examiner also withdraws the objection to specification and the 35 USC 112, second paragraph rejection made with respect to claims 12 and 13.

Applicant's arguments with respect to claims 1-5, 11-17 and 20-22 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 5, 11, 14-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birdwell et al. (U.S. Patent No. 6,032,197) in view of Hasbun et al. (hereinafter Hasbun, U.S. Patent No. 6,088,759).

As per claim 11, Birdwell discloses a stateless protocol method (read as IPv4 protocol), which is operable on a computer processor and computer memory, the stateless protocol comprising a computer program (figure 6), which configures the computer processor to: establish a legacy protocol (col. 1 L13-20), wherein said legacy protocol defines at least one legacy parameter for a header portion of a message (read as fragment field or any other field associated

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with the header), and wherein said legacy protocol defines a fixed legacy header length (col. 4 L54-67 to col. 5 L1-10; col. 2 L12-67 to col. 3 L1-27; fig. 4 item #40); receive and inbound message having a header portion (col. 2 L23-26; col. 4 L41-44); allocate a memory portion from the computer memory, said memory portion having a depth corresponding to said fixed legacy header length (col. 3 L3-22; col. 6 L10-21); push said header portion of said inbound message onto said memory portion thereby forming a received header (fig. 8 item #112; col. 2 L25-26), wherein the said header portion is compressed (i.e. truncated) to form a received header, such truncation causing any header parameters associated with an upgraded protocol (note, applicant has failed to define at this point what the upgraded protocol is, i.e. upgraded protocol could be interpreted as simply the legacy protocol) to be removed from header portion (col. 2 L48-60, col. 5 L20-41) and interpret said received header according to said legacy protocol (fig. 8 at item #26 comprising steps #108, 110, 112, 114, 116, 118 and 120; col. 4 L41-66); construct a legacy header according to said legacy protocol (col. 4 L54-56); append said legacy header to outbound data thereby creating an outbound message (col. 6 L46-51); and send said outbound message (col. 6 L52-54), however Birdwell does not teach the process wherein the header portion is truncated to form the received header if a length of said header portion is greater than said depth of said memory portion corresponding to said fixed legacy header length (note, the claim also fails to disclose the process wherein if the condition above is not true, than what would be the action. Therefore, the claim is interpreted as if the condition is not true i.e. if the length of header is not greater than depth of said memory portion than the action is interpreting header according to legacy protocol. In other words, if the condition is not true than there is no need if truncating the header portion. Therefore examiner does not need to further provide the facts because the

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limitation is only true if the condition which is just comparing the length of header with depth of memory, is met).

Hasbun, from the same field of endeavor discloses the process of allocating a memory portion from the computer memory, memory portion having the depth corresponding to fixed header length (fig. 8 item #830, 840, 842, 850), and the process of checking whether there is sufficient memory available for the fixed portion of header and if not, generating an error, or else writing the fixed header portion in the memory (fig. 6 item #624, 630, 650 and 680). Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Birdwell in view of Hasbun, in order to compare length of the header with the available memory (i.e. depth of the memory) and if length of the header is greater than depth of the memory then truncating the header portion to form the received header, since Hasbun teaches the process of comparing and checking the depth of the memory (i.e. available memory, the difference between the Hasbun teaching and applicant teaching is that the action in Hasbun after the availability check, is generating an error, whereas the applicant truncates the header portion, which is taught by the Birdwell).

One of ordinary skilled in the art would have been motivated because one, it would have determined if memory can be allocated as requested (Hasbun, col. 9 L40-43) and secondly, so that the header portion can be affectively written at the allocated space (Hasbun, col. 9 L43-52).

As per claim 5, Birdwell discloses the process wherein said inbound message includes a data portion (fig. 4 item #52 and fig. 5 item #52), however Birdwell does not disclose the process wherein header portion is pushed onto said memory portion after said data portion. Hasbun explicitly teaches the process wherein the header portion is pushed onto memory after memory

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portion (fig. 4 item #474 and #452). Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Birdwell in order to push header onto memory after data portion. One of ordinary skilled in the art would have been motivated because this technique is well known and used in the art i.e. the data portion is always pushed onto the memory before the header portion.

As per claim 14, Birdwell discloses the process receiving inbound message from an upper layer application having a header portion in an upper layer format; and sending outbound message to a lower layer application (fig. 2 item #30, fig. 3 and fig. 6 and OSI model).

As per claims 1, 15 and 20, they do not teach or further define over the limitations in claims 11, 14 and 5.

2. Claims 2, 12-13, 16 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birdwell et al. (U.S. Patent No. 6,032,197) in view of Hasbun et al. (hereinafter Hasbun, U. S. Patent No. 6,088,759), in view of S. Deering (hereinafter Deering, IETF RFC-2460 by S. Deering and R. Hinden), and further in view of Paatela et al. (U. S. Patent No. 6,944,168 B2).

As per claim 12, Birdwell in view of Hasbun discloses the process of allocating a memory portion from the computer memory, memory portion having the depth corresponding to header length (Hasbun, fig. 8 item #830, 840, 842, 850; i.e. memory is allocated according to the received header and packet), the process wherein received header of inbound message is interpreted according to said legacy protocol when no upgraded parameters are pushed on the memory portion (its obvious that the inbound parameters will be interpreted according to legacy protocol when no upgraded parameters are pushed on the memory because legacy protocol does not have any upgraded parameters, Birdwell's fig. 8 illustrates the process when the inbound

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message are received and interpreted according to protocol), however Birdwell and Hasbun does not explicitly disclose the process of establishing upgraded protocol, wherein upgraded protocol includes said at least one legacy parameter of said legacy protocol (i.e. any protocol associated with IPv4 protocol and its header), wherein upgraded protocol defines at least one upgraded parameter for said header portion (i.e. could be any parameter associated with IPv4 in an upgraded version) and wherein upgraded protocol defines a fixed upgraded header length; the process wherein received header of inbound message is interpreted according to upgraded protocol if at least one upgraded parameter is pushed on the memory portion; construct an upgraded header portion according to upgraded protocol and append upgraded header to outbound data.

Deering, from the same field of endeavor explicitly discloses the established upgraded protocol and constructing upgraded header according to upgraded protocol (i.e. IPv6 protocol, pg. 1-2, paragraph #1) which defines at least one legacy parameter (pg. 3 shows the header format for IPv6 protocol, the Next header field in IPv6 header uses the same values as the IPv4 protocol field, therefore it could be interpreted as the legacy protocol, the traffic class of IPv6 and the Type of service field of IPv4 have the same functions, it could be interpreted as the legacy parameter and finally both version has source and destination addresses field, they could be interpreted as legacy parameter also), which also defines one upgraded header parameter for header portion and which also defines a fixed upgraded header length (pg. 3-4, paragraph #3: the version field of the IPv6 is upgraded from 4 to 6, therefore it is interpreted as the upgraded parameter and also the IPv4 uses a 32 byte address whereas IPv6 uses 128 byte address, therefore the address fields in IPv6 could be interpreted as upgraded parameter also). Therefore it

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would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Birdwell in view of Hasbun, in order to establish an upgraded protocol with an upgraded header parameter, at least one legacy parameter and a fixed upgraded header length. One of ordinary skilled in the art would have been motivated because the upgraded protocol (i.e. IPv6) would have offered expanded addressing capabilities, reduce the common-case processing cost of packet handling and limit the bandwidth cost of the IPv6 header and would have allowed efficient forwarding and greater flexibility for introducing new options in the header (Deering, pg. 1 paragraph #1).

However, Deering does not disclose the process wherein received header of inbound message is interpreted according to upgraded protocol if at least one upgraded header parameter is pushed on the memory portion and append upgraded header to outbound data.

Paatela, from the same field of endeavor discloses the received header of inbound message is interpreted according to upgraded protocol (i.e. according to IPv6 protocol) if at least one upgraded header parameter is pushed on the memory portion (col. 25 L42 to col. 26 L65: the IPv6 packet is received, the IPv6 header is stored in the memory and then modified accordingly, i.e. interpreted according to IPv6 protocol). Paatela also teaches the process of appending upgraded header to outbound data (col. 26 L25-48). Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Birdwell in view of Hasbun and further in view of Deering in order to interpret the incoming message according to the upgraded protocol.

One of ordinary skilled in the art would have been motivated so that the incoming packet is processed according to the protocol supported by the node (Paatela, col. 26 L14-65).

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As per claim 13, Birdwell discloses the process of pushing or storing said legacy parameter onto said memory portion before said upgraded is pushed onto said memory portion (figure 7 and col. 7 L15-67-col. 8 L1-6: note that claim fails to disclose the number of inbound messages, the inbound message could be received using the upgraded protocol having an upgraded parameter or received using the legacy protocol having a legacy parameter, i.e. two inbound messages could have been received using the two different protocols, wherein if the first message received using the legacy protocol than obviously legacy parameter is pushed onto the memory before receiving the second message using the upgraded protocol having an upgraded parameter; Birdwell teaches the similar teaching wherein a compressed header is arrived before the uncompressed header, the compressed header is cached until the associated uncompressed header is indexed into the table).

As per claims 2, 16 and 21, they do not teach or further define over the limitations in claims 12-13. Therefore claims 2, 16 and 21 are rejected for the same reasons as set forth in claims 12-13.

As per claim 22, Birdwell discloses the process receiving inbound message from an upper layer application having a data portion in an upper layer format; and sending outbound message to a lower layer application (fig. 2 item #30, fig. 3 and fig. 6 and OSI model).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being obvious over Birdwell et al. (U.S. Patent No. 6,032,197) in view of Hasbun et al. (hereinafter Hasbun, U. S. Patent No. 6,088,759), in view of S. Deering (hereinafter Deering, IETF RFC-2460 by S. Deering and R. Hinden), and further in view of Paatela et al. (U. S. Patent No. 6,944,168 B2), and further in view of Taylor (U.S. Patent No. 5,206,822).

As per claim 3, Birdwell, Hasbun, Deering, Paatela does not disclose the process of padding said memory portion with default padding values when said header portion of said inbound message does not fill said memory portion.

Taylor explicitly discloses method and apparatus for optimized processing of sparse matrices. Taylor further teaches a storage scheme where the memory is padded with zeros (read as default padding) (col. 3 L34-55). Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Taylor as stated above with Birdwell in order to pad the memory with default values.

The motivation for doing so would have been so that an efficient storage scheme is achieved and where there is structured data access (col. 6 L49-58).

As per claim 17, it does not teach or further define over the limitations in claim 3. Therefore, claim 17 is rejected for the same reasons as set forth in claim 3.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Birdwell et al. (U.S. Patent No. 6,032,197) in view of Hasbun et al. (hereinafter Hasbun, U. S. Patent No. 6,088,759), and further in view of Malec et al. (U.S. Patent No. 4,973,952).

As per claim 4, Birdwell in view of Hasbun does not disclose the process wherein the legacy parameter comprises a value-type pair.

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Malec et al., explicitly discloses a shopping cart display system. He teaches the format of the message block including headers and data, headers comprising the parameters such as flag character, length field, and type-value block, followed by a data field (col. 20 L18-43).

At the time of the invention it would have been obvious to a person of ordinary skilled in the art to incorporate the teaching of Malec et al as stated above with the system and method of Birdwell et al for including type-value parameter in the header.

One of ordinary skilled in the art would have been motivated because block type-value pairs would have been used to indicate that the data field is part of a message (Malec, col. 20 L24-25). Also, it would have showed the type of data either integer or character transmitted, which would have improved the processing speed at the receiver during data analysis.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Mein et al. U.S. Patent No. 6,782,542 B1.
- b. Allard et al. U.S. Patent No. 6,370,561 B1.
- c. Humphrey et al. U.S. Patent No. 6,396,853 B1.
- d. Borella et al. U. S. Patent No. 6,708,219 B1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Flex schedule 8 hr days (10.00am-6.30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KD
October 31, 2005.


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER